

Patent Claims

1. Apparatus (1) for treating substrates (3) with at least one
5 process container (8) that is disposed in a gas atmosphere, contains a
treatment fluid (20) and has at least two constantly open openings
(15,16) disposed below a treatment fluid surface for the linear guidance
of the substrates (3) through, characterized by an inlet means below
the openings, and an overflow means above the openings (15,16) <.

10 2. Apparatus according to claim 1, characterized in that the
height of the overflow means can be adjusted.

3. Apparatus according to claim 1 or 2, characterized by a
closed overflow container (42).

15 4. Apparatus according to one of the preceding claims,
characterized in that the process container (8) and the overflow
container (42) are closed.

20 5. Apparatus according to one of the preceding claims,
characterized by a device (37) for generating an underpressure in a
space (40) formed in the process container (8) above the treatment
fluid (20).

6. Apparatus according to one of the preceding claims,
characterized in that the treatment fluid (20) can be introduced into the

process container (8) via an essentially horizontally disposed diffuser plate (22).

5 7. Apparatus according to one of the preceding claims, characterized by a collecting trough (30) that is mounted on the outer periphery of the process container (8) beneath at least one of the openings (15,16).

8. Apparatus according to claim 7, characterized by a drip catcher in the collecting trough.

10 9. Apparatus according to one of the preceding claims, characterized by at least one ultrasonic unit (24,26) within the process container (8).

15 10. Apparatus according to claim 9, characterized in that the ultrasonic unit (24,26) in the process container (8) extends over the entire width, perpendicular to the direction of movement of the substrates (3).

11. Apparatus according to claim 9 or 10, characterized in that the ultrasonic unit (24,26) has an aerodynamic shape.

20 12. Apparatus according to one of the preceding claims, characterized in that the substrate (3) can be moved through between at least two ultrasonic units (24,26) that face one another.

13. Apparatus according to one of the preceding claims, characterized by a drying chamber (32) that surrounds an outlet

opening (16) of the process container (8) and has a device (34,35) for the introduction of a fluid that reduces the surface tension of the treatment fluid (20).

5 14. Apparatus according to one of the preceding claims, characterized by a plurality of process containers that are disposed one after the other.

15. Apparatus according to claim 13 or 14, characterized in that the process containers contain different treatment fluids (20).

10 16. Apparatus according to one of the claims 13 to 15, characterized by a wetting unit (4) between the process containers (8).

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